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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant(s): Mario Wolczko et al.

Assignee: Sun Microsystems, Inc.

Title: FAST LIFETIME ANALYSIS OF OBJECTS IN A GARBAGE-COLLECTED SYSTEM

Serial No.: 10/796,539 Filing Date: March 8, 2004

Patent No.: 7,376,683 Issued: May 20, 2008

Examiner: Thanh Ha T. Dang Group Art Unit: 2163

Docket No.: P-7064CNT1

Monterey, CA  
August 25, 2008

ATTENTION: CERTIFICATE OF CORRECTIONS BRANCH  
COMMISSIONER FOR PATENTS  
P.O. BOX 1450  
ALEXANDRIA, VA 22313-1450

**Certificate**

SEP 03 2008

**of Correction**

**REQUEST FOR ENTRY OF**  
**CERTIFICATE OF CORRECTION**

Sir:

Please enter the enclosed Certificate of Correction (PTO Form 1050) in the above patent.

The errors sought to be corrected were made by

The Patent and Trademark Office as explained below. Thus, no fee is required for the Certificate of Correction pursuant to 37 CFR §1.322.

Applicant(s) (at least in part). See next section for explanation. This appropriate fee under 37 CFR §1.323 has been authorized below.

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Attached as Exhibit A (2 pages) is a copy of the Filing Receipt mailed May 26, 2004. Attached as Exhibit B (4 pages) is a copy of the Combined Declaration and Power of Attorney filed with the above application on March 8, 2004. Attached as Exhibit C (1 page) is a copy of the relevant page of the

Amendment first submitted on May 29, 2007, and resubmitted on November 29, 2007. These exhibits support the requested corrections to the coversheet and to Claim 36, and show that the errors were made by the U.S. Patent and Trademark Office.

As shown in Exhibits A and B, the country of residence for inventor Antonio Cunei is the United Kingdom. On the coversheet of the patent, Cunei's country of residence is incorrectly shown as Italy.

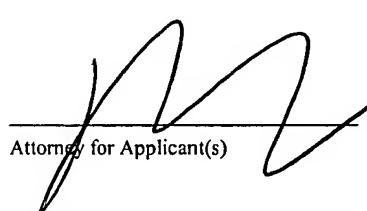
As shown in Exhibit C, Lines 10 to 11 of originally numbered Claim 86 (renumbered in the Patent as Claim 36) reads "...indicating one or more objects which are cyclic garbage;". The same line in the patent at Column 10, Line 13 reads "...indicating one or more objects which are cyclic".

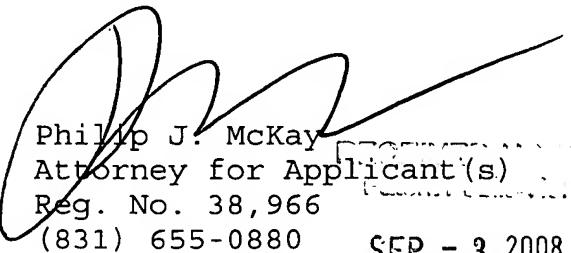
Applicants respectfully request entry of the enclosed Certificate of Correction. The Commissioner is hereby authorized to charge any fees required for consideration and entry of the enclosed documents, and to credit any overpayment of fees to Deposit Account No. 50-0553.

Please direct all inquiries concerning this request to the undersigned attorney.

**CERTIFICATE OF MAILING**

I hereby certify that this correspondence is being deposited with the United States Postal Service with sufficient postage as first class mail in an envelope addressed to Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450, on August 25, 2008.

  
Attorney for Applicant(s)

  
August 25, 2008  
Date of Signature

Respectfully submitted,

Philip J. McKay  
Attorney for Applicant(s)  
Reg. No. 38,966  
(831) 655-0880

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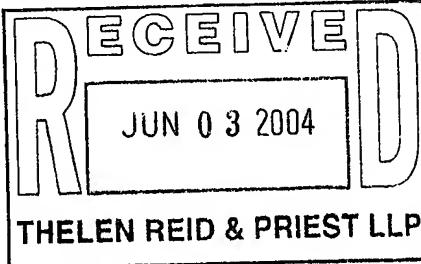


## UNITED STATES PATENT AND TRADEMARK OFFICE

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APPL NO.	FILING OR 371 (c) DATE	ART UNIT	FIL FEE REC'D	ATTY.DOCKET NO	DRAWINGS	TOT CLMS	IND CLMS
10/796,539	03/08/2004	2171	1596	SUN-P7064CNT1	8	42	8

David B. Ritchie  
 THELEN REID & PRIEST LLP  
 P.O. BOX 640640  
 SAN JOSE, CA 95164-0640



CONFIRMATION NO. 2027

FILING RECEIPT



\*OC000000012780337\*

Date Mailed: 05/26/2004

Receipt is acknowledged of this regular Patent Application. It will be considered in its order and you will be notified as to the results of the examination. Be sure to provide the U.S. APPLICATION NUMBER, FILING DATE, NAME OF APPLICANT, and TITLE OF INVENTION when inquiring about this application. Fees transmitted by check or draft are subject to collection. Please verify the accuracy of the data presented on this receipt. If an error is noted on this Filing Receipt, please write to the Office of Initial Patent Examination's Filing Receipt Corrections, facsimile number 703-746-9195. Please provide a copy of this Filing Receipt with the changes noted thereon. If you received a "Notice to File Missing Parts" for this application, please submit any corrections to this Filing Receipt with your reply to the Notice. When the USPTO processes the reply to the Notice, the USPTO will generate another Filing Receipt incorporating the requested corrections (if appropriate).

## Applicant(s)

Mario Wolczko, San Carlos, CA;  
 Antonio Cunei, Glasgow, UNITED KINGDOM;

RECEIVED

## Assignment For Published Patent Application

Sun Microsystems, Inc., a Delaware Corporation;

JUL 22 2004

## Domestic Priority data as claimed by applicant

Gunnison, McKay &amp; Hodgson, L.L.P.

This application is a CON of 10/116,236 04/03/2002 PAT 6,728,738

## Foreign Applications

If Required, Foreign Filing License Granted: 05/25/2004

RECEIVED AND FILED  
PUBLICATION REQUEST

Projected Publication Date: Request for Non-Publication Acknowledged

SEP - 3 2008

Non-Publication Request: Yes

Reviewed By: \_\_\_\_\_ Date: \_\_\_\_\_

Early Publication Request: No

No Action Required: \_\_\_\_\_  
Action Required: \_\_\_\_\_

## Title

Fast lifetime analysis of objects in a garbage collected system

Mail log \_\_\_\_\_ Date \_\_\_\_\_

Exhibit A

CPI One Date 7/7/04

Excel \_\_\_\_\_ Date \_\_\_\_\_

Preliminary Class

707

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**LICENSE FOR FOREIGN FILING UNDER  
Title 35, United States Code, Section 184  
Title 37, Code of Federal Regulations, 5.11 & 5.15**

**GRANTED**

The applicant has been granted a license under 35 U.S.C. 184, if the phrase "IF REQUIRED, FOREIGN FILING LICENSE GRANTED" followed by a date appears on this form. Such licenses are issued in all applications where the conditions for issuance of a license have been met, regardless of whether or not a license may be required as set forth in 37 CFR 5.15. The scope and limitations of this license are set forth in 37 CFR 5.15(a) unless an earlier license has been issued under 37 CFR 5.15(b). The license is subject to revocation upon written notification. The date indicated is the effective date of the license, unless an earlier license of similar scope has been granted under 37 CFR 5.13 or 5.14.

This license is to be retained by the licensee and may be used at any time on or after the effective date thereof unless it is revoked. This license is automatically transferred to any related applications(s) filed under 37 CFR 1.53(d). This license is not retroactive.

The grant of a license does not in any way lessen the responsibility of a licensee for the security of the subject matter as imposed by any Government contract or the provisions of existing laws relating to espionage and the national security or the export of technical data. Licensees should apprise themselves of current regulations especially with respect to certain countries, of other agencies, particularly the Office of Defense Trade Controls, Department of State (with respect to Arms, Munitions and Implements of War (22 CFR 121-128)); the Office of Export Administration, Department of Commerce (15 CFR 370.10 (j)); the Office of Foreign Assets Control, Department of Treasury (31 CFR Parts 500+) and the Department of Energy.

**NOT GRANTED**

No license under 35 U.S.C. 184 has been granted at this time, if the phrase "IF REQUIRED, FOREIGN FILING LICENSE GRANTED" DOES NOT appear on this form. Applicant may still petition for a license under 37 CFR 5.12, if a license is desired before the expiration of 6 months from the filing date of the application. If 6 months has lapsed from the filing date of this application and the licensee has not received any indication of a secrecy order under 35 U.S.C. 181, the licensee may foreign file the application pursuant to 37 CFR 5.15(b).

2008-09-03 10:45:20  
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**COMBINED DECLARATION AND POWER OF ATTORNEY  
FOR PATENT APPLICATION**



As a below-named inventor, I hereby declare that:

My correct residence, post office address and citizenship are stated below next to my name.

I believe myself to be the original, first and sole inventor (if only one name is listed below) or an original and first joint inventor (if more than one name is listed below) of the subject matter which is disclosed and claimed and for which a patent is sought on the invention entitled:

**"Fast Lifetime Analysis of Objects in a Garbage-Collected System"**

The specification of this subject matter:

is attached hereto.

was filed on \_\_\_\_\_;

was assigned serial No. \_\_\_\_\_;

which was amended on \_\_\_\_\_.

I hereby state that I have reviewed and understand the contents of the above identified patent application, including the claims, as amended by any amendment(s) referred to above. I do not know and do not believe that the claimed invention was ever known or used in the United States of America before my invention thereof, or patented or described in any printed publication in any country before my invention thereof or more than one year prior to this application, that the same was not in public use or on sale in the United States of America more than one year prior to this application, and that the invention has not been patented or made the subject of an inventor's certificate issued before the date of this application in any country foreign to the United States of America on an application filed by me or my legal representatives or assigns more than twelve months (for a utility patent application) or six months (for a design patent application) prior to this application.

I acknowledge the duty to disclose information which is material to the examination of this application in accordance with 37 C.F.R. §1.56(a).

I hereby claim foreign priority benefits under 35 U.S.C. §119 (a)-(d) of any foreign application(s) for patent or inventor's certificate listed below and have also identified below any foreign application for patent or inventor's certificate having a filing date before that of the application on which priority is claimed.

Prior Foreign Application(s)

Priority Claimed  
SEP - 3 2008

Number	Country	Month/Day/Year Filed	Yes	No
Number	Country	Month/Day/Year Filed	Yes	No
Number	Country	Month/Day/Year Filed	Yes	No

Exhibit B

I hereby claim the benefit under 35 U.S.C. §119(e) of any United States provisional application(s) listed below:

Application Number	Filing Date
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Application Number	Filing Date
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I hereby claim the benefit under 35 U.S.C. §120 of any United States application(s) listed below and, insofar as the subject matter of each of the claims of this application is not disclosed in these prior United States application(s) in the manner provided by 35 U.S.C. §112, I acknowledge the duty to disclose material information as defined in 37 C.F.R. §1.56(a) which occurred between the filing date of the prior application(s) and the national or PCT international filing date of this application.

Application No.	Filing Date	Status (Issued, Pending, Abandoned)
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Application No.	Filing Date	Status (Issued, Pending, Abandoned)
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Application No.	Filing Date	Status (Issued, Pending, Abandoned)
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Application No.	Filing Date	Status (Issued, Pending, Abandoned)
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I hereby appoint David B. Ritchie, Reg. No. 31,562; Marc S. Hanish, Reg. No. 42,626; John P. Schaub, Reg. No. 42,125; Gerhard W. Thielman, Reg. No. 43,186; Adrienne Yeung, Reg. No. 44,000; Steven J. Robbins, Reg. No. 40,299; William Samuel Niece, Reg. No.: P47,824; Masako Ando (37 CFR § 10.9(b)); Thierry Lo (37 CFR § 10.9(b)); John Klaas Uilkema, Reg. No. 20,282; Kenneth Olsen, Reg. No. 26,493; Timothy J. Crean, Reg. No. 37,116; Alexander E. Silverman, Reg. No. 37,940; Anirma R. Gupta, Reg. No. 38,275; Sean P. Lewis, Reg. No. 42,798; Michael J. Schallop, Reg. No. 44,319; Bernice B. Chen, Reg. No. 42,403; Noreen A. Krall, Reg. No. 39,734; Monica D. Ward, Reg. No. 40,696; Pavel Pogodin, Reg. No. 48,205; Marc D. Foodman, Reg. No. 34,110; Elaine Lee, Reg. No. 41,936; Hugh H. Matsubayashi, Reg. No. 43,779; Paul D. Sorkin No. 39,039; Marilyn E. Glaubensklee, Reg. No. 35,521; Andrew C. Chen, Reg. No. 43,544; Jeffrey L. Myers, Reg. No. 44,252; as attorneys of record with full power of substitution and revocation, to prosecute this application and transact all business in the United States Patent and Trademark Office connected therewith.

Please send all correspondence and direct all telephone calls to:

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Thelen Reid & Priest, LLP  
P.O. Box 640640  
San Jose, CA 95164-0640  
Telephone (408) 292-5800

I, the undersigned, declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code, and that such willful false statements may jeopardize the validity of the application or any patent issuing therefrom.

FULL NAME OF FIRST Name INVENTOR 1		MIDDLE Initial(s)	Docket No. SUN-P7064	
Mario			LAST Name	
RESIDENCE AND CITIZENSHIP		City	Wolczko	
POST OFFICE Code	Number and Street	State or Foreign Country	Country of Citizenship	
ADDRESS		San Carlos	United Kingdom	
30 Coronado Avenue		California	State or Country	Zip
		San Carlos	California	94070

FULL NAME OF FIRST Name INVENTOR 2		MIDDLE Initial(s)	LAST Name	
Antonio			Cunei	
RESIDENCE AND CITIZENSHIP		City	Country of Citizenship	
POST OFFICE Code	Number and Street	State or Foreign Country	United Kingdom	Italy
ADDRESS		City	State or Country	Zip
Room B, Flat 2/1-117 Kelvinhaugh Gate		Glasgow, Scotland	United Kingdom	G3 8PY

I further declare that all statements made herein of my own knowledge are true and that all statements made upon information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code, and that such willful false statements may jeopardize the validity of the application or any patent issuing thereon.

Mario Wolczko	Date
<u>Antonio Cen</u>	<u>April 2<sup>nd</sup>, 2002</u>
Antonio Cunei	Date

U.S. PATENT AND  
TRADEMARK OFFICE

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## 37 C.F.R. §1.56

## Duty to disclose information material to patentability

(a) A patent by its very nature is affected with a public interest. The public interest is best served, and the most effective patent examination occurs when, at the time an application is being examined, the Office is aware of and evaluates the teachings of all information material to patentability. Each individual associated with the filing and prosecution of a patent application has a duty of candor and good faith in dealing with the Office which includes a duty to disclose to the Office all information known to that individual to be material to patentability as defined in this section. The duty to disclose information exists with respect to each pending claim until the claim is cancelled or withdrawn from consideration, or the application becomes abandoned. Information material to the patentability of a claim that is cancelled or withdrawn from consideration need not be submitted if the information is not material to the patentability of any claim remaining under consideration in the application. There is no duty to submit information which is not material to the patentability of any existing claim. The duty to disclose all information known to be material to patentability is deemed to be satisfied if all information known to be material to patentability of any claim issued in a patent was cited by the Office or submitted to the Office in the manner prescribed by §§1.97(b)-(d) and 1.98. However, no patent will be granted on an application in connection with which fraud on the Office was practiced or attempted or the duty of disclosure was violated through bad faith or intentional misconduct. The Office encourages applicants to carefully examine:

- (1) Prior art cited in search reports of a foreign patent office in a counterpart application, and
- (2) The closest information over which individuals associated with the filing or prosecution of a patent application believe any pending claim patentably defines, to make sure that any material information contained therein is disclosed to the Office.

(b) Under this section, information is material to patentability when it is not cumulative to information already of record or being made of record in the application, and

- (1) It establishes, by itself or in combination with other information, a prima facie case of unpatentability
- (2) It refutes, or is inconsistent with, a position the applicant takes in:
  - (i) Opposing an argument of unpatentability relied on by the Office, or
  - (ii) Asserting an argument of patentability.

A prima facie case of unpatentability is established when the information compels a conclusion that a claim is unpatentable under the preponderance of evidence, burden-of-proof standard, giving each term in the claim its broadest reasonable construction consistent with the specification, and before any consideration is given to evidence which may be submitted in an attempt to establish a contrary conclusion of patentability.

(c) Individuals associated with the filing or prosecution of a patent application within the meaning of this section are:

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- (1) Each inventor named in the application;
- (2) Each attorney or agent who prepares or prosecutes the application; and
- (3) Every other person who is substantively involved in the preparation or prosecution of the application and who is associated with the inventor, with the assignee or with anyone to whom

(d) Individuals other than the attorney, agent or inventor may comply with this section by disclosing information to the attorney, agent, or inventor.



maintaining a reference count for one or more of the objects, said reference count indicating the number of incoming pointers to each object;

recording a timestamp for an object when said reference count for said object changes;

reviewing in reverse chronological order said timestamps for each of said objects which are cyclic garbage, and for each timestamp found:

indicating that the object corresponding to said timestamp is dead; and

indicating that any object reachable from said object corresponding to said timestamp is dead.

86. (Previously Presented) A program storage device readable by a machine, tangibly embodying a program of instructions executable by the machine to perform a method for measuring the lifetime of objects in a garbage-collected system, the objects organized in a graph structure, the method including:

recording a timestamp for an object when said reference count for said object is decremented;

executing a garbage collection, said garbage collection indicating one or more objects which are cyclic garbage;

## UNITED STATES PATENT AND TRADEMARK OFFICE CERTIFICATE OF CORRECTION

PATENT NO : 7,376,683

Page 1 of 1

APPLICATION NO. : 10/796,539

ISSUE DATE : May 20, 2008

INVENTOR(S) : Mario Wolczko and Antonio Cunei

It is certified that an error appears or errors appear in the above-identified patent and that said Letters Patent is hereby corrected as shown below:

On the coversheet, at Item 75, replace "Glasgow (IT)" with --Glasgow (GB)--.

In Column 10, Claim 36, Line 13, after "which are cyclic ", insert --garbage;--.

USPTO 1050 PTO  
1050

MAILING ADDRESS OF SENDER (Please do not use customer number below):

SEP - 3 2008

GUNNISON, McKAY & HODGSON, L.L.P.  
1900 Garden Road, Suite 220  
Monterey, CA 93940

This collection of information is required by 37 CFR 1.322, 1.323, and 1.324. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 1.0 hour to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Attention Certificate of Corrections Branch, Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

*If you need assistance in completing the form, call 1-800-PTO-9199 and select option 2*